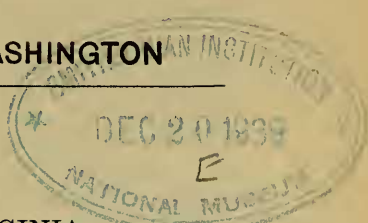


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BUTTERFLIES FROM VIRGINIA.

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In Frederick County, Virginia, we had found occasional individuals of *Glaucopsyche lygdamus*, a number of examples of *Euchloë olympia*, and a single *Pieris virginiensis*. It was evident that these butterflies were merely casuals in this region, and that their real home was somewhere else, presumably to the westward in nearby West Virginia. Indeed, our young friends William Orsinger and W. Herbert Wagner, had shown us small series of *G. lygdamus* and *E. olympia* taken on Ice Mountain and had told us that these two species were common there.

We visited the region in the middle of April, stopping at Winchester, but continuous rain and cold prevented any collecting during our stay. We again visited the region in early May, in company with Mr. and Mrs. Ernest L. Bell of New York, and this time we were lucky enough to have three perfect days. In our field work on the first day we had the pleasure of the company of Dr. Walter S. Hough.

We found *Euchloë olympia* abundant in the Ice Mountain region, and *Glaucopsyche lygdamus* locally common. The most productive locality in this area is reached by taking the unimproved road marked "Ice Mountain" running south by east from Slanesville on route 45. *Euchloë olympia* is abundant along the ridge beyond which the road dips into the valley of the North River, and *Glaucopsyche lygdamus* is common in the rich woods between this point and Slanesville, wherever the Carolina vetch (*Vicia caroliniana*) grows.

Another excellent collecting ground is located a mile or so west of the Virginia border on the Bloomery road which runs west from route 7 slightly less than 2 miles north of Cross

Junction, Frederick County, at the sign reading "Forks of Cacapon." Here in a wooded bottom along a stream *Pieris virginiensis* is quite at home, and *Glaucopsyche lygdamus* is common about the patches of vetch.

The occurrence in numbers of these three species so close to the Virginia border explains their appearance in western Frederick County.

In June we visited the Dismal Swamp region in company with Mr. and Mrs. Jackson H. Boyd and Messrs. John and Alexander Boyd of Southern Pines, North Carolina. On the return trip we found *Argynnis diana* in James City and Charles City Counties, from which it had not previously been reported—at least not since 1779. Early in July we revisited this region in company with Mr. and Mrs. Bell, securing our first July record of *Nymphidia pumila*.

Toward the end of July we spent ten days in Highland County, where we took *Strymon titus titus*, and found *Argynnis diana* generally distributed though nowhere common. In the middle of September we spent two days on Tangier Island, Accomac County.

We are privileged at this time to add four new butterflies to the Virginia list. Professor Lorus J. Milne of Randolph-Macon Woman's College, Lynchburg, and Mrs. Milne, have given the U. S. National Museum a fine specimen of *Erora laeta* which they secured at Mountain Lake; Mr. Carroll E. Wood, Jr., of Salem, has presented the Museum with an excellent specimen of *Incisalia polios* which he took near Salem; Mr. Otto Buchholz, of Westfield, New Jersey, has been so kind as to permit us to include a notice of his capture of *Atrytone pilatka* near Munden; and we ourselves secured *Strymon titus titus* at three localities near Monterey. The number of butterflies now definitely known from Virginia is 148.

In western Frederick County and in adjacent Hampshire County, West Virginia, we secured a long series of *Euchloë olympia rosa*, not previously known from the East. Whatever may be its status in the western states, it is in this region simply a varietal form of *E. olympia*.

Twice during the season we were so fortunate as to be guests of Mr. Theodor M. Mussaeus at his cabin on the cliffs above the Shenandoah at Limeton. Last year at the base of a large tree

in front of the cabin we found a nest of a large hornet. A worker from this nest was kindly identified for us by Miss Grace A. Sandhouse. It proved to be the European *Vespa crabro*, heretofore not recorded from Virginia. We hoped to get additional specimens this year, but failed to find it.

*Argynnis diana* (Cramer).

*James City Co.*: Jamestown, June 14, 1939; Barrett's Ferry, June 14, 1939. *Charles City Co.*: Charles City, June 14, 1939. *Highland Co.*: Jack Mountain, July 23, 1939; McDowell, July 23, 1939; Headwaters, July 23, 1939; near Palo Alto, July 23, 1939; Cow Pasture River at route 250, July 23, 1939; Lantz Mountain, July 25, 1939; Buckeye, July 27, 30, 1939.

*Remarks.*—During the past season we found this magnificent species in three additional counties. The type specimen was presumably captured somewhere in the vicinity of Jamestown or adjacent Williamsburg. Our male from Jamestown represents the first capture of this insect in that region since it was described in 1779. We have noticed that some of the males from the coastal plain have three broad light dashes between the cell of the fore wing and the light outer border in the interspaces from veins 2 to 5.

*Nymphidia pumila* Boisduval and LeConte.

*Princess Anne Co.*: Near Lake Tecomseh, July 3, 1939.

*Remarks.*—This butterfly was very common in a weedy field. It has the curious habit of settling with outstretched wings in the center of a group of the white flower heads of *Achillea millefolium*, just about the most conspicuous place it could select. Many of its tropical relatives in South America have a similar habit. We have found this species very local in Virginia, though abundant in the restricted areas in which it occurs.

All our previous records for this butterfly in Virginia have been in September or early October. There is presumably a spring brood in April, but so far we have not found it.

*Glaucopsyche lygdamus* (Doubleday).

*Roanoke Co.*: Martin's Farm, near Salem, April 13, 1938 (C. W. Gottschalk). *Rockbridge Co.*: Camp Powhatan, near Natural Bridge, May 1, 1938 (C. W. Gottschalk). *WEST VIRGINIA: Hampshire Co.*: Ice Mountain, May 7, 1939; Forks of Cacapon (or Capon), May 8, 1939.

*Remarks.*—In Hampshire County, West Virginia, not far from the Virginia line, this butterfly is common, as we reported in 1938 (Proc. Biol. Soc. Washington, vol. 51, p. 180, 1938). Its food plant, or at least its chief food plant, in this region is the Carolina vetch (*Vicia caroliniana*), and the butterfly is to be found in rich woodland wherever this plant grows. It is easily secured in quantities by remaining near a patch of this plant and catching the butterflies as they come to it. It is a very active little insect, flying with surprising speed very near the ground. In its habits it is much

more like the little copper (*Lycaena phlaeas hypophlaeas*) than like either of the other local blues (*Lycaenopsis argiolus pseudargiolus* and *Everes comyntas*). In fresh individuals the under side of the wings is very dark and slaty, wholly different from the light brown seen in faded museum specimens.

*Strymon titus titus* (Fabricius).

*Highland Co.*: Strait Creek, July 25, 1939; Monterey, July 26, 1939; Buckeye, July 27, 1939.

*Remarks.*—It was a matter of much interest to us to find this form in Highland County, although its occurrence there was to have been expected. The southern subspecies, *S. t. mopsus*, is the one we have found on the piedmont and about Washington, and as far west as Warren County.

We regard *Strymon titus watsoni* described by William Barnes and Foster H. Benjamin (Bull. So. California Acad. Sci., vol. 25, part 3, p. 94) from Kerrville, Texas, as a synonym of *S. t. mopsus*, with which the authors were unacquainted. When freshly emerged these butterflies are dark slaty in color, but in the sunlight they soon fade to a fairly light brown. Old museum specimens often become pale brown.

Mr. Benjamin himself first suggested the identity of *watsoni* and *mopsus*. On being shown by the senior author some specimens of the latter from Washington—*mopsus* was considered a synonym of *titus* at the time—he at once suggested that *watsoni* was probably the same as *mopsus*.

*Strymon m-album* (Boisduval and LeConte).

*Accomac Co.*: Tangier Island, September 16, 1939.

*Strymon cecrops* (Fabricius).

*Highland Co.*: Buckeye, July 27, 1939.

*Remarks.*—This is our most northern record for this species.

*Incisalia polios* Cook and Watson.

*Roanoke Co.*: Orphanage Falls, at the foot of Fort Lewis Mountain, Carroll E. Wood, Jr., April 5, 1938.

*Remarks.*—Mr. Wood was so generous as to present his specimen, which is quite typical, to the U. S. National Museum. The capture of this species in southwestern Virginia represents a notable extension of the known range. What its food plant is in this region remains to be determined.

*Erora laeta* (W. H. Edwards).

*Giles Co.*: Mountain Lake, Lorus J. and M. J. Milne, June 23, 1938.

*Remarks.*—Professor Milne has been so very kind as to present his specimen, a very fine one, to the U. S. National Museum. One of Mr. William Henry Edwards' original specimens was captured at Coalburgh, West Virginia, not so very far from Mountain Lake. The species has not since been found in West Virginia.

*Pieris virginiensis* W. H. Edwards.

WEST VIRGINIA: *Hampshire Co.*: Forks of Cacapon (or Capon), May 8, 1939.

*Remarks.*—In low damp woods along a stream we found this species not infrequent, flying in somewhat indolent fashion among the trees. We also noticed what we assumed were individuals of this species in a number of other similar localities in nearby West Virginia. We agree with Dr. A. B. Klots that the habitat of this species is so very different from that of *Pieris rapae* that there can be no question of direct competition between them. *Pieris rapae* is an open country butterfly. The early spring form in this region frequents the edges of woods, but does not enter them, when frightened flying off over the fields. We have found both species on the same groups of flowers by the roadside at different times, but this is unusual.

*Euchloë olympia* form *rosa* (W. H. Edwards).

*Frederick Co.*: Cross Junction, May 8, 1939; west of Cross Junction, May 8, 1939. WEST VIRGINIA: *Hampshire Co.*: Ice Mountain, May 7, 1939; Forks of Cacapon (or Capon), May 8, 1939.

*Remarks.*—On April 24, 1938, we took typical *Euchloë olympia* at the two localities in Frederick County, and we have seen a number of specimens of typical *olympia* taken earlier in the same month in the region of Ice Mountain by Messrs. William Orsinger and W. Herbert Wagner. On May 7 and 8 of this year, although we took a few battered individuals of more or less typical *olympia*, nearly all that we captured were almost, or quite, typical *rosa*.

At the time of our visit to the region in 1938 the weather was cold, and there had been no warm weather earlier in the season. When we were there early in May of this year it was hot, and had been hot for some time. It can scarcely be doubted that all of the individuals of this butterfly in this region are of the same stock. If this is so the natural conclusion is that in the cool weather of early spring this species appears in the form *olympia*, but later in the season after warm weather has become established it changes over to the form *rosa*. These two forms, therefore, are primarily cool and warm weather forms of the species, and not geographical races.

Western and southwestern specimens that we have seen are all referable to *rosa*, while northern specimens from Michigan and elsewhere are referable to *olympia*. In northwestern Virginia and in adjacent West Virginia, both forms occur, *olympia* early in the season when it is still cool, *rosa* later after it has become hot. It is quite probable that the form *rosa* does not occur every year, as hot weather in late April and early May is exceptional.

In the region of Ice Mountain we noticed that *Euchloë olympia* kept to the crests of the ridges and to the higher elevations generally, where it was very common, one or more being almost continuously in sight. Here *Anthocharis genutia* was infrequent. But in the bottoms of the valleys *A. genutia* was fairly common and *E. olympia* absent.



' *Papilio polyxenes asterius* Cramer.

*Accomac Co.:* Tangier Island, September 16, 17, 1939.

*Remarks.*—This was the only swallowtail on the wing on Tangier Island at the time of our visit. It was not very common. As all the individuals were fresh we assume that in this region this species has three broods.

*Pyrgus centaureae wyandot* (W. H. Edwards).

*Frederick Co.:* Cross Junction, May 8, 1939; west of Cross Junction, May 8, 1939; Gainesboro, May 9, 1939; Whitacre, May 9, 1939. *WEST VIRGINIA: Hampshire Co.:* Ice Mountain, May 7, 1939; Forks of Cacapon (or Capon), May 8, 1939.

*Remarks.*—All over this region in late April this butterfly is very common and generally distributed, but its numbers begin to decrease toward the end of the month and it becomes progressively scarcer in May.

*Erynnis lucilius* (Scudder and Burgess).

*Highland Co.:* Middle Mountain, glade along woods near bog, June 12, 1939 (John E. Graf). *Surry Co.:* Spring Grove, July 1, 1939.

*Remarks.*—The specimen from Spring Grove, which was identified by Mr. Ernest L. Bell, who was with us when it was caught, represents the first record of this species from the coastal plain.

*Poanes viator* (W. H. Edwards).

*Richmond Co.:* At the end of the bridge across the Rappahannock River from Tappahannock, June 27, 1937. *King William Co.:* Port Richmond, June 7, 1936. *James City Co.:* Jamestown, June 14, July 5, 1939. *Isle of Wight Co.:* Smithfield, June 15, 1938, June 10, 1939. *Nansemond Co.:* Chuckatuck, June 15, 1938. *Princess Anne Co.:* Knott's Island, July 5, 1939.

*Remarks.*—This butterfly is exceedingly local, but wherever it is found it is exceedingly abundant. It occurs in incredible numbers in the marshes between Jamestown Island and the mainland in the areas where the wild rice (*Zizania palustris*) is common. On our visit to this locality on July 5, 1939, we found most of the individuals fresh males.

*Poanes aaroni* (Skinner).

*District of Columbia:* Washington, E. M. Aaron, July 24, 1903.

*Remarks.*—Dr. Eugene Murray Aaron has been so kind as to give us the details of his capture of a specimen of this species, named for him by Dr. Henry Skinner.

Mr. Aaron lived at the time just north of the western end of Summit Place on the top of the cliff at the bottom of which were the bears' dens in the National Zoological Park. Just across Summit Place was the residence of Mr. George Brown Goode, Assistant Secretary of the Smithsonian Institution. Between Mr. Goode's house and the cliff was a flower bed. The butterfly was captured on this flower bed while hovering over an agave in a tub. Adams Mill Road now passes over the spot.

This species no longer occurs in the vicinity of Washington, presumably having been extirpated by the filling in of the extensive marshes along the Potomac. *Poanes viator*, which formerly occurred in Washington (Bull. 157, U. S. Nat. Mus., p. 229, 1932), was probably extirpated at the same time.

*Atrytone dukesi* Lindsey.

Norfolk Co.: Gum swamp south of the Chesapeake and Albemarle canal at North Landing, June 12, 13, 23, July 2, 1939; Pocaty Creek, June 12, 1939.

Remarks.—This species appears to be quite common throughout the gum swamp that occupies the eastern extension of Norfolk County. We have found it at the point where route 190 approaches the bridge over Pocaty Creek, and also where route 165 approaches the drawbridge over the Chesapeake and Albemarle canal. Dr. G. W. Rawson found it along the southern edge of the canal near the drawbridge.

*Atrytone pilatka* (W. H. Edwards).

Princess Anne Co.: Munden, Otto Buchholz, June 21, 1939.

Remarks.—This large skipper forms a very interesting addition to the fauna of Virginia. The most northerly known locality heretofore was Oriental, North Carolina.

*Calpodes ethlius* (Cramer).

Accomac Co.: Tangier Island, September 18, 1939.

Remarks.—This record is based upon a single half grown caterpillar found on a canna in Mrs. T. J. Pruitt's garden.

*Panoquina panoquin* (Scudder).

Accomac Co.: Tangier Island, September 16–18, 1939.

Remarks.—This skipper, which was abundant everywhere on the extensive salt marshes, was the only common butterfly on the island at the time of our visit.